

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-270309

(43)Date of publication of application : 29.09.2000

(51)Int.Cl.

H04N 7/16
G06F 13/00
G06F 17/60
H04N 7/173

(21)Application number : 11-073010

(71)Applicant : DAINIPPON PRINTING CO LTD

(22)Date of filing : 18.03.1999

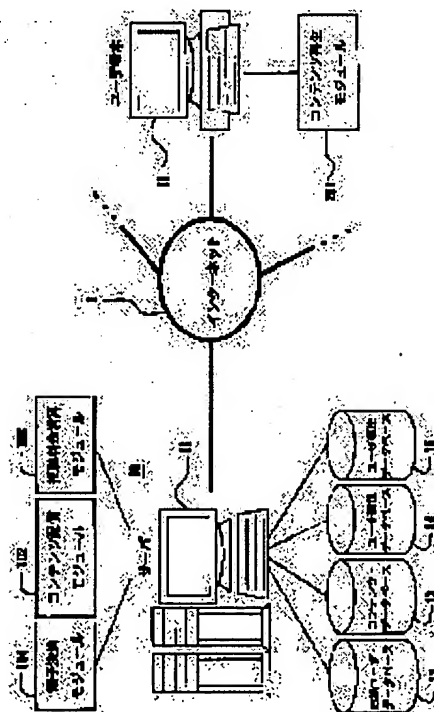
(72)Inventor : WADA KEI

(54) CHARGING AND ADJUSTMENT SYSTEM FOR INFORMATION DISTRIBUTION AND ITS SERVER

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an information distribution system which collects a proper charge with respect to the quality of contents actually viewed by a user in the distribution of contents of a pay streaming executed on a network.

SOLUTION: Assuming that distribution of contents with the best quality attained by a server 10 is made, then the system imposes a basic charge with respect to the distribution of contents with the best quality onto a user. The server distributes contents to the user with an information quantity (quality) by which a contents reproduction module 201 of a user terminal 20 can reproduce the contents in real time. A contents distribution module 201 stores information such as an information quantity with respect to the quality of the received contents, number of frames per second, and a distribution band and returns the information to the server 10 after the end of reproduction. A view charge module 103 evaluates the information with respect to the quality of the received contents to obtain a counter value and decides a returned monetary amount on the basis of the basic charge and the counter value. The server 10 returns the money to the user depending on the returned monetary mount.



* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to network techniques, such as the Internet, an electronic banking technique, and a contents distribution technique. It can use for the system and server which perform accounting and the audit in the system which distributes contents especially using streaming technology on the Internet.

[0002]

[Description of the Prior Art] There is streaming technology as a technique of the information distribution in the Internet. About contents which had the demand from the user to the server, such as an animation and music, streaming technology carries out so that the contents distribution from a server and the contents playback by the side of a user may not be mostly broken off on real time, taking a synchronization. Usually, when performing contents distribution in the Internet, a user's network connection environment, the circuit situation between servers, etc. influence the latency time which downloads contents. On the other hand, transmission of contents must be performed so that it may be reproduced without being real time and information breaking off in time amount predetermined in the playback by the side of a user. Therefore, the content of the contents to distribute is thinned out according to the transmission efficiency by the user environment or the network environment, amount of information is reduced dynamically or changing two or more contents created in various quality assumed beforehand etc. is performed.

[0003] Although the communications service which used this technique and used contents as goods from the former exists, it is difficult to collect the tariff of the contents which are goods after information offer in the electronic clearing system in the Internet. For this reason, in case contents accounting is realized combining the present electronic clearing system, small sum settlement of accounts is sometimes impossible for a credit card, and fundamentally, a user pays a fixed tariff in advance and has become the service arrangement of performing user registration for viewing and listening to contents.

[0004]

[Problem(s) to be Solved by the Invention] In the conventional distribution system, since each user cannot necessarily receive contents on the same conditions at all like [the object for modems, or for ISDN] even if it distinguishes a tariff by the topology to an Internet Service Provider, it cannot be said that service can be offered by the suitable countervalue. That is, although the environmental basis which changes dynamically like the Internet can also perform flexible contents offer by streaming technology, the point which does not have flexibility to the quality of the information to which the tariff structure and a payment system are changed poses a problem.

[0005] For example, according to the congestion situation of a circuit etc., also when a user receives offer of the animation (contents) of the same content in the same environment, whenever the image quality of the animation with which a user is provided etc. receives offer, it is changed. For this reason, since the circuit is very crowded, image quality is dramatically bad, and also when a carrier eclipse has only offer of an animation with few coma per time amount, there is a problem that the uniform tariff beforehand defined to this animation must be paid.

[0006] Moreover, for a user, there is also resistance to paying an uniform tariff in advance to the contents of the quality and the content which is not guaranteed.

[0007] Then, this invention aims at offering the system and server which can pay a countervalue suitable about the contents to which the user viewed and listened actually as a result by performing an audit afterwards to the quality of the contents to which the user viewed and listened.

[0008]

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, invention according to claim 1 In the information distribution system which distributes contents on the network containing a server and a user terminal using streaming technology said server An accounting means to charge the minimum charge to distributing the contents demanded from the user terminal with predetermined quality before distribution of said contents, A distribution quality decision means to define the distribution quality of said contents according to the circuit situation between a server and a user terminal, By the demand of a distribution means to have the distribution quality which said distribution quality decision means defines, and to distribute said contents to a user terminal, a viewing-and-listening data storage means to memorize the viewing-and-listening data received from the user terminal, and the refund from a user terminal It has an amount decision means of refund to determine the amount of refund based on said viewing-and-listening data. Said user terminal A distribution demand means to require distribution of said contents of a server, and an information storage means to accumulate the information about the receiving quality of said contents which the user terminal received actually based on said distribution quality, It constitutes so that it may have a viewing-and-listening data transmitting means to transmit to a server as viewing-and-listening data related with the user data containing user ID and password of a means to require refund of a server, and the user who received said contents for the information about said receiving quality to the demand of said refund.

[0009] According to the information distribution system constituted as mentioned above, an accounting means charges the minimum charge defined beforehand to a user about the contents which a distribution demand means requires. The distribution quality to which a distribution quality decision means distributes said contents based on the circuit situation of the circuit between a server and a user terminal is determined. A distribution means has said distribution quality and distributes said contents to a user terminal. A distribution quality decision means may change distribution quality according to the circuit situation of the circuit between a server and a user terminal during distribution of contents. In a user terminal, an information storage means accumulates the information about the receiving quality of said contents which received actually based on said distribution quality. After reception termination of contents, the refund demand means of a user terminal requires refund of a server. The viewing-and-listening data transmitting means of a user terminal is transmitted to this refund demand at a server as viewing-and-listening data which related the information about the accumulated receiving quality with user data. The amount decision means of refund determines the amount of refund based on said viewing-and-listening data.

[0010] Invention according to claim 2 includes the combination of some [information / about said receiving quality] at least one of a viewing-and-listening contents name, viewing-and-listening time, viewing-and-listening time amount, the amount of data delivered actually, the number of the coma during a second at the time of contents playback, the effective speed in the case of distribution, and the effective band **, or of these in an information distribution system according to claim 1. A user terminal can evaluate quantitatively the quality of the contents which received actually by this.

[0011] In the information distribution server which distributes contents using streaming technology on the network where invention according to claim 3 contains a user terminal An accounting means to charge the minimum charge to distributing the demanded contents with predetermined quality before distribution of said contents, A distribution quality decision means to define the distribution quality of said contents according to the circuit situation of the circuit to distribute, A distribution means to have the distribution quality which said decision means defines, and to distribute said contents to a user terminal; The information about the receiving quality of said contents which the user terminal received actually based on said distribution quality The means received as viewing-and-listening data related with the user data containing user ID and password of the user who received said contents, A viewing-and-

listening data storage means to memorize said viewing-and-listening data, a means to receive the refund demand from a user terminal, and said refund demand constitute so that it may have an amount decision means of refund to determine the amount of refund based on said viewing-and-listening data.

[0012] According to the information distribution server constituted as mentioned above, an information distribution system according to claim 1 is easily realizable.

[0013] Invention according to claim 4 includes the combination of some [information / about said receiving quality] at least one of a viewing-and-listening contents name, viewing-and-listening time, viewing-and-listening time amount, the amount of data delivered actually, the number of the coma during a second at the time of contents playback, the effective speed in the case of distribution, and the effective band **s, or of these in an information distribution server according to claim 3. According to this, an information distribution system according to claim 2 is easily realizable.

[0014] In the information distribution server which distributes contents using streaming technology on the network where invention according to claim 5 contains a user terminal An accounting means to charge the minimum charge to distributing the demanded contents with predetermined quality before distribution of said contents, A distribution quality decision means to define the distribution quality of said contents according to the circuit situation of the circuit to distribute, It has said distribution quality, and it constitutes so that it may have a distribution means to distribute said contents to a user terminal, an information storage means to accumulate the information about said distribution quality, and an amount decision means of refund to determine the amount of refund based on the information about said distribution quality.

[0015] According to the information distribution server constituted as mentioned above, an accounting means charges the minimum charge defined beforehand to a user about the contents demanded from the user terminal. The distribution quality to which a distribution quality decision means distributes said contents based on the circuit situation of the circuit between a server and a user terminal is determined. A distribution means has said distribution quality and distributes said contents to a user terminal. A distribution quality decision means may change distribution quality according to the circuit situation of the circuit between a server and a user terminal during distribution of contents. The information storage means of a server accumulates the information about the distribution quality of said contents distributed to the user terminal. After distribution termination of contents, the amount decision means of refund determines the amount of refund based on the information about the distribution quality of said contents.

[0016] Invention according to claim 6 includes the combination of some [information / about said distribution quality] at least one of a viewing-and-listening contents name, viewing-and-listening time, viewing-and-listening time amount, the amount of data distributed actually, the number of the coma during a second at the time of contents playback, the effective speed in the case of distribution, and the effective band **s, or of these in an information distribution server according to claim 5. According to this, a server side can estimate quantitatively the quality of the contents distributed to the user.

[0017]

[Embodiment of the Invention] First, the fundamental way of thinking of this invention is explained. In this invention, when a user demands contents distribution of an information distribution server, it assumes distributing contents to a user with the highest quality in which a server is possible. It is once charged at a user, using the tariff equivalent to the contents distribution (it being hereafter called "original contents") by the assumed highest quality as minimum charge. Next, contents are distributed to a user terminal, adjusting the quality of contents according to the circuit situation of the circuit between a server and a user terminal. The countervalue equivalent to the quality of the actually distributed contents is compared with minimum charge [finishing / accounting], and a user will be repaid if there is the balance. Here, a circuit situation shows all the elements on the communication link which influences the amount of signal transduction per time amount, and the transmission capacity of a channel, the activity ratio of a channel, etc. correspond. Moreover, the quality of contents is judged using information including some combination at least one of a viewing-and-listening contents name, viewing-and-listening time, viewing-and-listening time amount, the amount of data distributed actually, the number of the coma during a second at the time of contents playback, the effective speed in the case of

distribution, and the effective band **, or of these. Furthermore, the quality of the distributed contents is estimated by the difference with the quality of original contents.

[0018] Below, the gestalt of suitable operation of this invention is explained with reference to drawing.

[0019] The information distribution structure of a system which starts the operation gestalt of this invention at drawing 1 is shown roughly.

[0020] An information distribution system is constituted by the Internet 1, and the server 10 connected to this and two or more user terminals 20 in drawing 1. In addition, only one user terminal 20 is illustrated for convenience.

[0021] The server 10 is equipped with server equipment 11, the registered user database 12, the contents database 13, the user authentication database 14, and the user viewing-and-listening database 15.

[0022] Server equipment 11 has the electronic banking module 101, the contents distribution module 102, and the audience fee golden audit module 103. The electronic banking module 101 performs settlement of minimum charge and refund. The contents distribution module 102 performs distribution of contents, and handling of each database. The audience fee golden audit module 103 determines the amount of refund. In addition, server equipment 11 can be divided into two or more server equipments like electronic banking server equipment or contents server equipment, and can also be formed.

[0023] The data configuration of each database is shown in drawing 2. Registration User Information is memorized by the registered user database 12. Registration User Information is constituted for every user including the information about the user who has paid the tariff in advance, and the information on the amount of money paid in advance. Contents information is memorized by the contents database 13. Contents information is constituted for every contents including the information on the minimum charge of a contents name, contents data, and contents. Authentication data are memorized by the user authentication database 14. Authentication data are constituted by User Information and the user for every contents distribution including the information on a contents name that viewing and listening was attested. Viewing-and-listening data are memorized by the user viewing-and-listening database 15. Viewing-and-listening data are constituted for every distribution of contents including User Information, the information on the contents name to which the user viewed and listened, and the information on the quality of the contents to which the user viewed and listened.

[0024] The user terminal 20 has the contents playback module 201. A user accumulates the information about the quality of the contents which received actually, and returns the contents playback module 201 to a server with User Information while it reproduces the contents which received.

[0025] Below, the processing which server equipment 11 and a user terminal 20 perform is explained according to the procedure at the time of using the information distribution system of this invention. The procedure in the case of utilization is divided into a user registration procedure, a contents viewing-and-listening procedure, and an audience fee golden audit procedure.

[0026] In a user registration procedure, a user pays in advance the minimum charge defined to the contents which wish to view and listen, and registration required in order to view and listen to contents is performed.

[0027] In a contents viewing-and-listening procedure, contents are distributed with the quality according to a circuit situation, and data concerning [a user] the quality of carrier beam contents are actually acquired in offer.

[0028] In an audience fee golden audit procedure, the refund money frame with which a user repays offer to a user from the agreed value of the quality of carrier beam contents and the minimum charge paid in advance actually is determined.

[0029] Drawing 3 is a flow chart which shows processing of a user registration procedure. Although a user registration procedure is explained according to this flow chart, it precedes performing user registration and the following procedures are performed.

[0030] The user has stored the tariff for paying to information offer beforehand 1 fixed amount (it is called the following and "being payment beforehand"). User ID and a password are assigned to a user by having stored payment beforehand. That is, user ID and a password are distributed to a user as a check of having stored payment beforehand. In order to identify the user who has stored payment beforehand, the amount of payment (prepaid money amount) is beforehand remembered to be User Information of

user ID, a password, etc. by the registered user database 12 as registration User Information.

[0031] After finishing an above-mentioned procedure, a user accesses a server 10 through the Internet 1 from a user terminal 20, and gives a user registration demand to a server 10 (step S001).

[0032] According to the directions (step S001) from the server 10 to a user registration demand, a user enters the contents name which wishes to view and listen, user ID, and a password (step S002).

[0033] The contents distribution module 102 searches the contents database 13 based on the inputted contents name, and acquires the information on the minimum charge of the contents concerned.

Furthermore, the registered user database 12 is searched based on the user ID and the password which were entered, and the information on the prepaid money amount of the user concerned is acquired. The contents distribution module 102 delivers the information on the minimum charge of contents, and the information on the prepaid money amount of the user concerned to the electronic banking module 101.

With [a prepaid money amount] minimum charge [more than], an electronic banking module performs electronic banking, and delivers it to a contents distribution module as the prepayment amount-of-money balance after settling the frame which subtracted minimum charge from the amount of payment beforehand (step S003). The contents distribution module 102 overwrites the prepayment amount-of-money balance after settlement of accounts at a registered user database.

[0034] When the inputted contents name or user ID, and a password were not found in each database, or when a prepaid money amount is below the minimum charge of contents, electronic banking is not performed, but electronic banking is failing and progresses to step S005. Moreover, when electronic banking is successful, it progresses to step S006 (step S004).

[0035] When electronic banking goes wrong, a message to that effect is displayed on a user terminal (step S005).

[0036] When electronic banking is successful, the contents distribution module 102 memorizes a contents name in the user authentication database 14 as authentication data with a user name and a password (step S006). Authentication data prove that the user has paid the tariff to the contents concerned.

[0037] When storage of 14 is successful to a user authentication database, it progresses to step S010, and when it fails according to the trouble of hardware etc., it progresses to step S008 (step S007).

[0038] The message of the purport which user registration completed is expressed to a user terminal as step S010.

[0039] At step S008, the message of a purport in which user registration failed is displayed on a user terminal, and cancellation processing of electronic banking is performed in step S009. The minimum charge of the contents concerned is added to the prepaid money amount of the registered user database 12, and, specifically, a prepaid money amount is returned to the value before the electronic banking of step S003.

[0040] Below, the flow chart of drawing 4 is used and explained about a contents viewing-and-listening procedure.

[0041] A user inputs user ID, a password, and a contents name, and gives a contents viewing-and-listening demand to a server 10 (step S011).

[0042] The contents viewing-and-listening demand which the server 10 received is received and passed to the contents distribution module 102. It checks whether the contents distribution module 102 refers for user ID, a password, and a contents name to the user authentication database 14, and is carrying out the electronic banking of the minimum charge for a user to view and listen to the contents concerned (step S012).

[0043] When it progresses to step S014 when enquiry of user ID, a password, and a contents name goes wrong, and it succeeds, it progresses to step S015 (step S013).

[0044] The message of a purport in which enquiry of user ID, a password, and a contents name failed is expressed to a user terminal 20 as step S014.

[0045] At step S015, contents with a viewing-and-listening demand are distributed. The contents distribution module 102 determines the transmitting band which judges the circuit situation between server equipment 11 and a user terminal 20, and is used for distribution here. Furthermore, the contents distribution module 102 distributes contents using the determined transmitting band, adjusting the

quality of the contents distributed according to change of the circuit situation between server equipment 11 and a user terminal 20. Adjustment of the quality of contents is performed by performing [in the case of a video data] the cut of a RF or low frequency etc. dynamically in the case of thinning out of the number of the coma during a second, and music data, or changing two or more contents created in various quality assumed beforehand, using a known stream technique.

[0046] In a user-terminal 20 side, the contents playback module 201 receives the data of contents distributed, and the data of contents are reproduced on real time with reception. Furthermore, the contents playback module 201 accumulates the information about the quality of the contents which received while reproducing the data of contents. Viewing-and-listening time amount, the amount of data which received, the number of the coma during a second at the time of playback, the execution speed in the case of reception, an effective band, etc. are included in the information about the quality of the contents which received.

[0047] Distribution of contents is ended when the contents distribution module 102 receives distribution termination of all the data of contents, or the viewing-and-listening termination demand from a user terminal 20 (step S016).

[0048] By distribution termination of contents, the contents playback module 201 adds User Information and a contents name to the information about the quality of the accumulated contents, and returns them to a server 10 as viewing-and-listening data (step S017).

[0049] Below, the flow chart of drawing 5 is used and explained about an audience fee golden audit procedure. Moreover, drawing 6 shows the relation of the inter module in an audience fee golden audit procedure. Into a text, a parenthesis is attached and the reference mark with a round head in drawing 6 is explained.

[0050] A user inputs user ID, a password, and a contents name, and gives an audit processing demand to a server 10 in quest of refund (**) (step S1).

[0051] The audit processing demand which the server 10 received is received and passed to the audience fee golden audit module 103. The audience fee golden audit module 103 asks the contents distribution module 102 for user authentication (**). The contents distribution module 102 searches the user ID and the password which were entered, and a contents name within the user authentication database 14, and checks whether it has viewed and listened to the contents into which the user who performed the audit processing demand was inputted actually. The result of the check is returned to the audience fee golden audit module 103 (**) (step S2).

[0052] When user authentication is successful, it progresses to step S4, and when it fails, it progresses to step S7 and the message of the purport of user authentication failure is displayed on a user terminal 20 (step S3).

[0053] In step S4, the audience fee golden audit module 103 requires viewing-and-listening data of the contents distribution module 102 (**). The contents distribution module 102 reads user ID, a password, and the viewing-and-listening data that search the user viewing-and-listening database 15, and correspond based on a contents name, and sends them to the audience fee golden audit module 103 (**).

[0054] The audience fee golden audit module 103 checks whether the acquired viewing-and-listening data are normal data, when there are abnormalities in data, such as data corruption, it progresses to step S6, and when it is normal data, it progresses to step S8 (step S5).

[0055] The message of the purport which the abnormalities in data generated is expressed to a user terminal 20 as step S6.

[0056] The audience fee golden audit module 103 totals each item included in the acquired viewing-and-listening data, such as the number of the coma during a second, and a transmission band, and evaluates the quality of the contents which the user received by step S8.

[0057] Furthermore, the quality of the contents distributed to the user calculates the amount of refund to a user by evaluating how much it deteriorated to the quality of the contents which the distribution person assumed (step 9). For example, the amount of refund can be decided by the following formula as simplest approach.

[0058] The amount of refund = minimum charge x (amount-of-information [of the thinned-out contents of amount-of-information / original])

Furthermore, other information may be considered and the amount of refund may be determined. In addition, the distribution person side of contents determines the count approach of the concrete amount of refund.

[0059] The audience fee golden audit module 103 transmits the audit data which contain the amount of refund, user ID, and a password in the electronic banking module 101, and performs an audit demand (**) (step S10).

[0060] The electronic banking module 101 searches a registered user database based on the user ID and the password in audit data, and acquires registration User Information of the user concerned. The amount of refund is added to the prepaid money amount within registration User Information, and an audit tariff is repaid to a user by [after an audit] overwriting a registered user database as the amount balance of payment beforehand (**) (step 11).

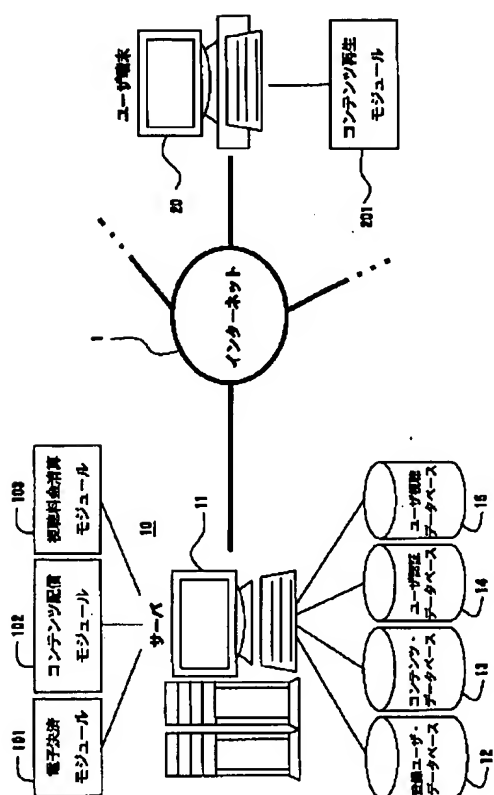
[0061] The message of repayment processing termination is displayed on a user terminal 20, and the audit of audience fee gold is ended (step 12).

[0062] The gestalt of operation of this invention may be changed not only in an above-mentioned thing but variously, and may be applied. For example, when an electronic banking module does not have the device in which payment processing to a user is performed automatically, the manager of an electronic clearing system may perform payment processing to a user off-line. Moreover, since the quality of the contents which a user terminal receives is fundamentally the same as the quality of the contents which a server distributes, you may make it accumulate the information about the quality of the contents distributed for determining the amount of refund in a server side, as indicated to claim 5. If it does in this way, information distribution of this invention can be carried out by the response of only a server. Furthermore, although the format which includes the refund to a user in this user's prepaid money amount is taken in above-mentioned explanation, the amount of refund may be converted into the point, and you may decide to give the privilege according to a point size, and, of course, may repay in cash. While preparing refundment length, the upper limit of a refund money frame is set up, and the technique of repaying to a user the frame which divided the refund money frame by the number of users which required refundment after length is also considered. In this case, the distribution person of contents becomes possible [assuming the costs which start refundment in advance]. A design which does not require audit processing but pays back by summarizing **** immediately [carrier beam] later is also possible.

[0063]

[Effect of the Invention] As explained above, according to the server, the quality of the contents to which the user viewed and listened can be quantitatively evaluated in accounting and the audit system list to information distribution of this invention. In distribution of the charged streaming contents currently carried out only by the approach of collecting an uniform tariff from a user, the suitable tariff to the quality of the contents to which the user viewed and listened actually can be collected thereby conventionally. In contents offer which is not especially allowed failure, such as live junction, also when accident should happen and sufficient information offer is not able to be performed, the means of refundment can perform a guarantee of a certain kind.

[Translation done.]

Drawing selection Representative drawing ☒

[Translation done.]

* NOTICES *

JPO and NCIPI are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] In the information distribution system which distributes contents on the network containing a server and a user terminal using streaming technology said server An accounting means to charge the minimum charge to distributing the contents demanded from the user terminal with predetermined quality before distribution of said contents, A distribution quality decision means to determine the distribution quality of said contents according to the circuit situation between a server and a user terminal, A distribution means to distribute said contents to a user terminal with the distribution quality which said distribution quality decision means defines, A viewing-and-listening data storage means to memorize the viewing-and-listening data received from the user terminal, It has an amount decision means of refund by which the demand of the refund from a user terminal determines the amount of refund based on said viewing-and-listening data. Said user terminal A distribution demand means to require distribution of said contents of a server, and an information storage means to accumulate the information about the quality of said contents which the user terminal received actually, The information about said receiving quality to a refund demand means to require refund of a server, and the demand of said refund An information distribution system equipped with a viewing-and-listening data transmitting means to transmit to a server as viewing-and-listening data related with the user data containing user ID and password of the user who received said contents.

[Claim 2] The information distribution system according to claim 1 characterized by the information about said receiving quality including some combination at least one of a viewing-and-listening contents name, viewing-and-listening time, viewing-and-listening time amount, the amount of data delivered actually, the number of the coma during a second at the time of contents playback, the effective speed in the case of distribution, and the effective band **, or of these.

[Claim 3] In the information distribution server which distributes contents on the network containing a user terminal using streaming technology An accounting means to charge the minimum charge to distributing the demanded contents with predetermined quality before distribution of said contents, A distribution quality decision means to determine the distribution quality of said contents according to the circuit situation to distribute, A distribution means to distribute said contents to a user terminal with the distribution quality which said decision means defines, The information about the receiving quality of said contents which the user terminal received actually based on said distribution quality The means received from a user terminal as viewing-and-listening data related with the user data containing user ID and password of the user who received said contents, The server of an information distribution system equipped with a viewing-and-listening data storage means to memorize said viewing-and-listening data, a means to receive the refund demand from a user terminal, and an amount decision means of refund by which said refund demand determines the amount of refund based on said viewing-and-listening data.

[Claim 4] The server of the information distribution system according to claim 3 by which information about said receiving quality is characterized by including some combination at least one of a viewing-and-listening contents name, viewing-and-listening time, viewing-and-listening time amount, the amount of data delivered actually, the number of the coma during a second at the time of contents playback, the effective speed in the case of distribution, and the effective band **, or of these.

[Claim 5] In the information distribution server which distributes contents on the network containing a

user terminal using streaming technology An accounting means to charge the minimum charge to distributing the demanded contents with predetermined quality before distribution of said contents, A distribution quality decision means to define the distribution quality of said contents according to the circuit situation of the circuit to distribute, The server of an information distribution system equipped with a distribution means to distribute said contents to a user terminal with said distribution quality, an information storage means to accumulate the information about said distribution quality, and an amount decision means of refund to determine the amount of refund based on the data about said distribution quality.

[Claim 6] The server of the information distribution according to claim 5 to which information about said distribution quality is characterized by including some combination at least one of a viewing-and-listening contents name, viewing-and-listening time, viewing-and-listening time amount, the amount of data delivered actually, the number of the coma during a second at the time of contents playback, the effective speed in the case of distribution, and the effective band **s, or of these.

[Translation done.]